LISTING OF THE CLAIMS

Claim 1. (Previously presented) A method of promoting natural bypass in a mammal to provide increased blood flow to tissue served by an occluded or partly occluded vessel, comprising administering to the mammal a mixture of proteins derived from ground bone.

Claim 2. (Previously presented) The method according to claim 1 wherein the mixture of proteins derived from ground bone comprises at least two growth factors selected from the group consisting of bone morphogenic protein-2 (BMP-2), bone morphogenic protein-3 (BMP-3), bone morphogenic protein-4 (BMP-4), bone morphogenic protein-5 (BMP-5), bone morphogenic protein-6 (BMP-6), bone morphogenic protein-7 (BMP-7), transforming growth factor β1 (TGF-β1), transforming growth factor β2 (TGF-β2), transforming growth factor β3 (TGF-β3) and fibroblast growth factor 1 (FGF-1).

Claim 3. (Original) The method of claim 1, wherein the mammal is a human.

Claim 4. (Original) The method of claim 1, wherein the mixture is administered subcutaneously, intramuscularly, or intravenously.

Claim 5. (Original) The method of claim 1, wherein the mixture is administered discretely or continuously.

Claim 6. (Previously presented) The method of claim 1, wherein said mixture further comprises a growth factor selected from the group consisting of insulin-like growth factor-1 (IGF-1), epidermal growth factor (EGF), hepatocyte growth factor (HGF), transforming growth factor α (TGF-α), and platelet-derived growth factor (PDGF).

Claim 7. (Original) The method of claim 1, wherein the mixture further comprises a preservative or an adjuvant.

Claim 8. (Previously presented) A method of promoting natural bypass in a mammal to provide increased blood flow to tissue served by an occluded or partly occluded vessel, comprising administering to the mammal a mixture of proteins derived from ground bone, wherein the mixture comprises BMP-2, BMP-3, BMP-7, TGF-β, and FGF.

Claim 9. (Previously presented) A method of promoting natural bypass in a mammal to provide increased blood flow to tissue served by an occluded or partly occluded vessel, comprising administering to the mammal a mixture of proteins derived from ground bone, wherein the mixture is derived by:

(i) grinding mammalian bone, to produce ground bone;

(ii) cleaning the ground bone, to produce cleaned ground bone;

(iii) demineralizing the cleaned ground bone, to produce demineralized cleaned ground bone;

(iv) extracting protein from the demineralized cleaned ground bone using a protein denaturant to yield extracted protein;

(v) ultrafiltering the extracted protein to separate out high molecular weight proteins;

(vi) ultrafiltering the extracted protein to separate out low molecular weight proteins;

(vii) transferring the extracted protein to a non-ionic denaturant;

(viii) subjecting the extracted protein to an anion exchange process;

(ix) subjecting the extracted protein to a cation exchange process; and

(x) subjecting the extracted protein to a reverse phase HPLC process.

Claim 10. (Original) The method of claim 9, wherein the mammalian bone is bovine bone.

Claim 11. (Original) A method of promoting vessel growth to heal a heart artery that has been partly or fully occluded, comprising administering to the heart a mixture of proteins derived from ground bone.

Claim 12. (Previously presented) The method according to claim 11 wherein the mixture of proteins derived from ground bone comprises at least two growth factors selected from the group consisting of bone morphogenic protein-2 (BMP-2), bone morphogenic protein-3 (BMP-3), bone morphogenic protein-4 (BMP-4), bone morphogenic protein-5 (BMP-5), bone morphogenic protein-6 (BMP-6), bone morphogenic protein-7 (BMP-7), transforming growth factor β1 (TGF-β1), transforming growth factor β2 (TGF-β2), transforming growth factor β3 (TGF-β3), and fibroblast growth factor 1 (FGF-1).

Claim 13. (Original) The method of claim 11, wherein the heart is a human heart.

Claim 14. (Original) The method of claim 11, wherein the mixture is administered subcutaneously, intramuscularly, or intravenously.

Claim 15. (Original) The method of claim 11, wherein the mixture is administered discretely or continuously.

Claim 16. (Previously presented) The method of claim 11, wherein the mixture further comprises a growth factor selected from the group consisting of insulin-like growth factor-1 (IGF-1), epidermal growth factor (EGF), hepatocyte growth factor (HGF), transforming growth factor α (TGF-α), and platelet-derived growth factor (PDGF).

Claim 17. (Original) The method of claim 11, wherein the mixture further comprises a preservative or an adjuvant.

Claim 18. (Original) The method of claim 11, wherein the mixture comprises BMP-2, BMP-3, BMP-7, TGF-β, and FGF.

Claim 19. (Previously presented) The method of claim 11, wherein said mixture is obtained by:

(i) grinding mammalian bone, to produce ground bone;

(ii) cleaning the ground bone, to produce cleaned ground bone;

(iii) demineralizing the cleaned ground bone, to produce demineralized cleaned ground bone;

(iv) extracting protein from the demineralized cleaned ground bone using a protein denaturant to yield extracted protein;

(v) ultrafiltering the extracted protein to separate out high molecular weight proteins;

(vi) ultrafiltering the extracted protein to separate out low molecular weight proteins;

(vii) transferring the extracted protein to a non-ionic denaturant;

(viii) subjecting the extracted protein to an anion exchange process;

(ix) subjecting the extracted protein to a cation exchange process; and

(x) subjecting the extracted protein to a reverse phase HPLC process.

Claim 20. (Original) The method of claim 19, wherein the mammalian bone is bovine bone.

Claim 21. (Previously presented) A method of treating ischemic tissue damage in a mammal, said method comprising at least the step of: administering to said ischemic tissue a composition that comprises a mixture of proteins derived from ground bone.

Claim 22. (Previously presented) The method according to claim 21 wherein the mixture of proteins derived from ground bone comprises at least two growth factors selected from the group consisting of bone morphogenic protein-2 (BMP-2), bone morphogenic protein-3 (BMP-3), bone morphogenic protein-4 (BMP-4), bone morphogenic protein-5 (BMP-5), bone morphogenic protein-6 (BMP-6), bone morphogenic protein-7 (BMP-7), transforming growth factor β1 (TGF-β1), transforming growth factor β2 (TGF-β2), transforming growth factor β3 (TGF-β3), and fibroblast growth factor 1 (FGF-1).

Claim 23. (Previously presented) The method of claim 21, wherein said ischemic tissue is human tissue.

Claim 24. (Previously presented) The method of claim 21, wherein said composition is administered subcutaneously, intramuscularly, or intravenously.

Claim 25. (Previously presented) The method of claim 21, wherein said composition is administered discretely or continuously.

Claim 26. (Previously presented) The method of claim 21, wherein said mixture further comprises a growth factor selected from the group consisting of insulin-like growth factor-1 (IGF-1), epidermal growth factor (EGF), hepatocyte growth factor (HGF), transforming growth factor α (TGF-α), and platelet-derived growth factor (PDGF).

Claim 27. (Previously presented) The method of claim 21, wherein said composition further comprises a preservative or an adjuvant.

Claim 28. (Previously presented) The method of claim 21, wherein said mixture comprises BMP-2, BMP-3, BMP-7, TGF-β, and FGF.

Claim 29. (Previously presented) The method of claim 21, wherein said mixture is obtained by:

(i) grinding mammalian bone, to produce ground bone;

(ii) cleaning the ground bone, to produce cleaned ground bone;

(iii) demineralizing the cleaned ground bone, to produce demineralized cleaned ground bone;

(iv) extracting protein from the demineralized cleaned ground bone using a protein denaturant to yield extracted protein;

(v) ultrafiltering the extracted protein to separate out high molecular weight proteins;

(vi) ultrafiltering the extracted protein to separate out low molecular weight proteins;

(vii) transferring the extracted protein to a non-ionic denaturant;

(viii) subjecting the extracted protein to an anion exchange process;

(ix) subjecting the extracted protein to a cation exchange process; and

(x) subjecting the extracted protein to a reverse phase HPLC process.

Claim 30. (Original) The method of claim 29, wherein the mammalian bone is bovine bone.

Claim 31. (Previously presented) The method of claim 21, wherein said bone is mammalian bone.

Claim 32. (Previously presented) The method of claim 31, wherein said mammalian bone is bovine bone.